

LABOUR'S PLAN FOR DIGITAL IRELAND

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LABOUR'S PLAN FOR DIGITAL IRELAND

Executive Summary

Next-generation broadband¹ is an essential component of our economic recovery. The availability of high speed broadband is crucial for business and job creation, as well as being key to attracting outside investment.

Despite the often touted rhetoric of the Smart Economy, Ireland lags significantly behind the EU and the OECD in many crucial aspects. The failure of Fianna Fáil Governments over the past decade to roll out adequate connectivity has left Ireland languishing well behind our international competitors in the broadband stakes:

- Ireland currently ranks 22nd out of 30 countries in the OECD for Broadband access.
- Ireland's 16-24 year olds rank 26th out of 27 in the EU for regular use of the Internet.

This paper lays out Labour's plans to bring Ireland into the 21st century.

Labour in Government will:

- Pave the way for a new company *NetCo* which would begin the roll-out of Ireland's Next Generation Broadband
- Instruct ComReg to aggressively pursue further Local-Loop Unbundling price reduction
- Develop a broadband rating system for every property being sold or rented
- Increase the digital literacy of the Irish population

¹ Broadband is usually defined by the speed or bandwidth of the connection. This is the amount of data that can be transferred per second to the user (download) or from the user (upload).

A dial-up internet connect has a bandwidth of up to 56 kilobits per second (56kbps). An average broadband speed today is around 2 Mbps, around 40 times faster. Next Generation Broadband (100 Mb/s or above) would be at least 15 times faster again. Furthermore, this connection would be symmetric, meaning that the download bandwidth is similar to the upload bandwidth. This is not the case currently, as most connections are asymmetric.

- Appoint a Chief Information Officer to play a central role in encouraging Cloud Computing and improving e-Government
- Make the establishment of the Digital Single Market one of Ireland's priorities in its European agenda
- Encourage investment in Next Generation Broadband by facilitating the appropriate regulatory culture
- Instruct ComReg to ensure all suppliers provide regular data on speeds throughout their networks

1. NetCo – Delivering Next Generation Broadband

Labour in government will facilitate the establishment of a company, NetCo, to deliver a nationwide next generation broadband network. This company will involve a number of different investors.

Labour will actively seek out further investment in order to facilitate roll-out; options including entry by the telecoms incumbent, the energy companies or other private investment will all be considered.

Labour will expand the focus of the regulator towards prioritising investment in Next Generation Broadband, creating a culture of investment. This would be done in conjunction with its current approach of increasing competition in First Generation Broadband.

NetCo will begin the roll-out of Next Generation Broadband across the entire State. This will connect the vast majority of the population to fibre optic cables which will allow speeds 100 Mpb/s and greater. This is approximately 100 times faster than the speeds used in the National Broadband Scheme.

The network would be primarily based on fibre, and would be supplemented by next generation wireless and satellite technology where required. The vast majority of homes would be directly connected utilising Fibre to the Home - FTTH², with a wireless solution only being offered in remote areas. It would replace the aging copper network that is currently in existence.

NetCo would own the passive elements of the infrastructure (the fibre and the network stations) but would be barred from acting in the active elements of the system, i.e. providing broadband services. It would charge a fee to telecoms operators for access to its networks, however it must charge retailers at the same rate. Initial investors in the network would be charged a different rate in order to

² Fibre to the Home (FTTH) –extending fibre infrastructure from the local exchange to the consumer's premises. Also know as "the last mile". "Internationally, the deployment of FTTH is regarded as the ultimate next generation broadband solution." (Forfás, 2010)

incorporate the risk for their initial investment. This network would be required to operate under strict rules ensuring net neutrality.³

Labour Proposes

- The establishment of a new company, NetCo, which would begin the roll-out of Next Generation Broadband in Ireland.
- This company would work exclusively on the passive elements of the infrastructure and would be barred from offering retail services.

Q & A – NetCo

Q. Why are we not talking about buying the existing copper network?

A. There is no need to purchase the existing copper network as regulation is possible to address all issues with this. Labour have proposed a range of measures including reducing the cost of local-loop-unbundling, mandating ISPs to give information on actual speeds instead of advertised speeds, and other issues, which will effectively deal with First Generation Broadband and ensure effective competition.

Q. What will the network consist of?

A. Labour envisages that the network will take the form of distinct solutions depending on population density. The vast majority of the network connecting to households (the last mile) will be fibre-to-the-home (FTTH) providing an enormous increase in speeds to every citizen. Fibre to the Cabinet (FTTC) upgrades could serve as a medium term opportunity for improved service.⁴ In more remote areas where population density increases costs significantly, the network will utilize next generation wireless technologies to provide Next Generation Broadband. In cases of extreme remoteness, satellite technology will

³ Net neutrality is about equal access to the Internet. It supports the principle that Internet providers cannot block, speed up or slow down web content based on its source, ownership or destination. For example, an internet provider should not be allowed to block free call applications such as Skype.

⁴ Fibre to the Cabinet (FTTC) would upgrade the copper telephone line from the local exchange to the street cabinet, retaining the copper lines from the cabinet to the home.

be required to provide cost-effective solutions. All of these networks will be underpinned by an improved core network.

Q. How much will it cost?

A. The network is likely to cost around €2 billion, roughly at a rate of €2,000 per home. But the cost of not building it will be much greater. High speed broadband is crucial for business, for job creation and to help attract outside investment. We believe that next-generation broadband is an essential component of our economic recovery.

Q. Who will pay?

A. The purpose of NetCo is to engender a private sector solution to the problem. No investor alone has proceeded with a nation-wide FTTH roll-out because the scale of the costs involved, and the current level of development of First Generation Broadband which allows for continued increases for the coming years. This will not address the needs of Ireland in the coming years. As such, Labour is proposing to bring together multiple partners to make this project work, with each owning the percentage of the network that they put in.

We expect to see involvement from the current operators in Ireland, including eircom. However we will actively seek the involvement of other participants, including International operators and other potential private investors. In Switzerland for example, Swisscom is a co-operative business venture which allows multiple companies to own fibre infrastructure through a co-operative venture pushed by the government.

Q. Why is it needed?

A. The Government's policy over the past ten years has led to Ireland being currently 24th out of the OECD 30 in Broadband development, according to the most comprehensive study on the subject by the Berkman Institute in Harvard. Even though we have made some progress recently, we are still significantly behind our OECD partners. While the debate in Ireland is focusing on how to fix

First Generation Broadband, the rest of the world is developing Next Generation Broadband. If we don't act now, we are in danger of falling even further behind.

ComReg and Forfás both acknowledge that we are unlikely to see the roll-out of Next Generation Broadband within the next 3-5 years. The current government approach has done nothing to help this situation. A new approach is needed.

Next Generation Broadband is key to economic development. Other countries such as South Korea, UK and Germany all have recognised this and are working towards dramatically increasing their capacity. Australia has launched a completely publically funded FTTH roll-out. All these countries are already ahead of us in broadband development.

Q. Who owns NetCo?

A. NetCo will be owned by the investors reflective to their rate of investment. If you fund 20% of the project, you own 20% of the lines.

Q. Why would telcos invest?

A. Investment in the system early on will increase profits long-term for the company. There will be a risk premium that is paid for organizations who take part in the initial investment that will justify the costs. Other competitors who come onto the system after it has been built will have greater costs for use of the system.

Furthermore, our actions in dramatically increasing competition in First Generation Broadband will result in a greater impetus for investment in Next Generation Broadband.

2. Transitional Options – Low Hanging Fruit

During the transition to Next Generation Broadband, Labour will initiative a series of measures in order to stimulate the current broadband market in Ireland. Labour's plan will provide the backbone infrastructure for Next Generation Broadband, but companies will still be needed to provide the retail end. It is vital to ensure that the market is becoming increasingly competitive during the building stage in order to ensure effective market competition once the National Broadband Plan is implemented.

Local-Loop Unbundling

Labour will instruct ComReg to aggressively pursue further Local Loop Unbundling price reduction. At 33% above the EU average, the price €12.41 remains a significant barrier to entry. A reduction in this will allow other operators besides the incumbent to gain greater market share.

Information

There is a significant information gap in the broadband market. By increasing information available to the consumer, the government can enable consumers to make a more rational choice, which will result in faster average speeds and lower prices.

First, and most importantly, is the fact that the difference between advertised speeds and average speeds is not made clear to consumers at point of purchase. ComReg will be instructed to mandate that each provider supply better data on speeds throughout its network, depending on the variety of geographical and infrastructural issues. This would allow the user to be able to make an informed choice. This data will be incorporated in an online database of prices and services available on its website to provide an authoritative source of information for consumers who are looking for information about broadband.

Second, there is an opportunity to improve broadband deployment by increasing consumer knowledge at the point of purchase/rent of property. South Korea facilitated competition by offering formal public certification programs that

certified buildings as “connected” when they were wired for high speed connectivity. This resulted in developers competing to ensure that their properties had high-speed broadband. A similar model to the BER could be implemented, with premises rated between A1 and F1 depending on their broadband availability. This would be a mandatory requirement for all property advertisements, so at the point of information gathering the information is readily available.

Due to the long-term nature of fibre roll-out it is unlikely a binary standard of “connected” as opposed to “un-connected” would be of particular use in the Irish example, but a model similar to the BER could rate the speed of the broadband available in a house from A1 to F1 allowing the user to have increased knowledge about the property. This would be made a mandatory requirement for all property advertisements and would increase the ability of the consumer to make an informed choice, and in turn, may increase the landowner’s investment in broadband.

Finally, there is an increasing tendency to advertise broadband services as unlimited or uncapped despite the terms and conditions specifying that there are in fact limits on the broadband usage.

Labour will ensure that all advertisements that discuss the total bandwidth allowance accurately reflect the terms and conditions of the package.

Labour will:

- Ensure ComReg will continue to pursue a decrease in the price of LLU to bring it in line with the European average.
- Ensure ComReg instructs all suppliers to provide regular data on the average speeds throughout their networks
- Facilitate the development of a government rating system that would be required on every property being sold or rented detailing the level of broadband facilities available.

- Place a ban on all advertisements which misrepresent that total broadband allowance.

3. Current Situation – Broadband Rankings

The Harvard Berkman Institute performed the most comprehensive analysis of the international broadband situation in February 2010. Unlike previous international comparisons which focused primarily on penetration, the Berkman Institute looked at a range of measures to include penetration, speeds and price. Ireland's position on this table is detailed below. All positions are ranked out of 30.

| Penetration Metrics | Rank | Speed metrics | Rank | Price metrics | Rank |
|--|------|--------------------------------|------|--------------------------------|------|
| Penetration per 100, OECD | 21 | Maximum speed, OECD | 21 | Price low speed, OECD | 5 |
| House penetration, OECD | 22 | Average speed, OECD | 26 | Price low speed, OECD+GC | 6 |
| 3G penetration, GC | 22 | Median download, speedtest.net | 24 | Price mid speed, OECD | 24 |
| Wi-Fi hotspots, per 100,000, Jwire | 5 | Median upload, speedtest.net | 25 | Price mid speed, OECD+GC | 22 |
| <div> <div></div> 1st quintile <div></div> 2nd quintile <div></div> 3rd quintile <div></div> 4th quintile <div></div> 5th quintile </div> | | Median latency, speedtest.net | 25 | Price high speed, OECD | 26 |
| | | 90% download, speedtest.net | 21 | Price high speed, OECD+GC | 26 |
| | | 90% upload, speedtest.net | 17 | Price very high speed, OECD | N/A |
| | | | | Price very high speed, OECD+GC | N/A |
| | | | | | |

Some key points to note from this are:

- Ireland is in the bottom ten for the vast majority of measurements.
- Ireland's weighted ranking for speed is 24th out of 30 in the OECD average.
- Ireland lags significantly behind OECD countries in both penetration per 100 and household penetration

- While Ireland performs very well in the cost for low speed broadband (sub 2Mbit/s), we revert to a lower position in terms of mid-speed and high speed. Overall, Ireland rank(s) 21st out of 30 in speed.
- Of 19 categories, Ireland ranks in the top 10 in only three times.

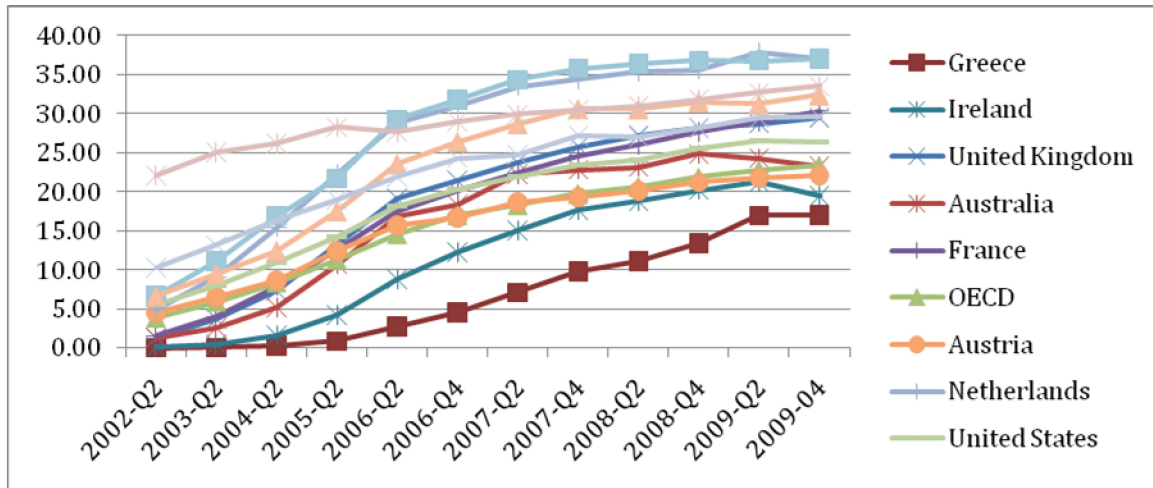
Overall Rankings

This table below compiles all the most recent international rankings of broadband to show that the analysis of Ireland being at the bottom is not exclusive to particular surveys, but reflective of almost all international broadband studies.

| Country | OECD Broadband Statistics June 2010 (Fixed Broadband subscribers per inhabitants) | Berkman | Broadband Leadership Matrix - Broadband Quality Study 2009 | ITIF Broadband Rankings 2008 | Overall Rank |
|-----------------|---|---------|---|---------------------------------------|-----------------|
| Korea | 4 | 4 | 1 | 1 | 1 |
| Sweden | 8 | 2 | 3 | 6 | 2 |
| Japan | 16 | 1 | 2 | 2 | 3 |
| Denmark | 2 | 3 | 8 | 7 | 4 |
| Netherlands | 1 | 6 | 6 | 4 | 5 |
| Finland | 15 | 5 | 4 | 3 | 6 |
| Switzerland | 3 | 8 | 5 | 10 | 7 |
| France | 9 | 7 | 15 | 5 | 8 |
| Norway | 4 | 11 | 9 | 9 | 9 |
| Iceland | 7 | 11 | 10 | 8 | 10 |
| Germany | 10 | 8 | 18 | 16 | 11 |
| United Kingdom | 14 | 10 | 17 | 13 | 12 |
| United States | 14 | 13 | 12 | 15 | 13 |
| Luxembourg | 6 | 17 | 7 | 14 | 14 |
| Belgium | 13 | 15 | 16 | 17 | 15 |
| Australia | 18 | 18 | 11 | 12 | 16 |
| Canada | 12 | 22 | 14 | 11 | 17 |
| Portugal | 23 | 14 | 23 | 18 | 18 |
| Italy | 21 | 16 | 24 | 21 | 19 |
| Austria | 19 | 19 | 22 | 21 | 20 |
| New Zealand | 17 | 21 | 20 | 19 | 21 |
| Spain | 20 | 20 | 21 | 20 | 21 |
| Ireland | 22 | 26 | 13 | 23 | 23 |
| Greece | 24 | 23 | 25 | 24 | 24 |
| Czech Republic | 26 | 25 | 19 | 27 | 25 |
| Slovak Republic | 28 | 24 | 27 | 28 | 26 |
| Hungary | 25 | 27 | 26 | 25 | 27 |
| Poland | 27 | 28 | 29 | 26 | 28 |
| Turkey | 30 | 30 | 28 | 29 | 29 |
| Mexico | 29 | 29 | 30 | 30 | 30 |

Time-Graph

Ireland's broadband development has continued over the past years, even increasing from previous levels of growth. Government policies have left Ireland at a significant disadvantage which forces us to be constantly playing catch-up with other countries; even if the present growth rate continues, Ireland will remain behind the vast majority of OECD countries.



Source: OECD Broadband Statistics, 2002-2009

There is clear evidence from the above data to show that Ireland lags behind most OECD countries in broadband development. This is particularly true in the development of Next Generation Broadband, which utilises fibre-optics technology.

4. Ireland's Failed Broadband Past

Market Failure

At present, no private sector firms are committing to deploying Next Generation Broadband. Eircom, while awaiting results of its own trials, has determined that Fibre-to-the-Home (FTTH) deployment is not commercially viable at this time and has no immediate plan for roll-out of Next Generation Broadband. Furthermore, there have been no firm indications from alternative operators that they intend to enter the market in any significant way.

There is widespread belief from key broadband stakeholders that roll-out of Next Generation Broadband is unlikely for 3-5 years at least. As ComReg has noted, we “have barely begun to see the deployment of next generation broadband access networks in Ireland”.⁵

A variety of factors come into play for telecoms operators to determine whether to invest in Next Generation Broadband. The initial cost, which is estimated by Eircom to be €2000 for each FTTH connection,ⁱ would require a substantial initial investment, an investment which is difficult during the economic crisis. Furthermore, there is the question of potential demand. There are a number of countries where FTTH is available but sufficient demand does not yet exist for FTTH services, such as Finland.

Given the current speed of Ireland's first generation broadband development, the potential exists for significant speed increases within the current infrastructure. As a result of there has been stagnation with Irish broadband providers failing to invest in NGN in order to stay ahead of their competitors. The government cannot simply leave the development of Next Generation Broadband to the market under its currently regulatory regime.

⁵ ComReg 2009, Next Generation Broadband in Ireland – Promoting the timely and efficient development of high speed broadband infrastructure and services, July 2009

The current approach cannot be successful due to their past policy failures. A new approach is required.

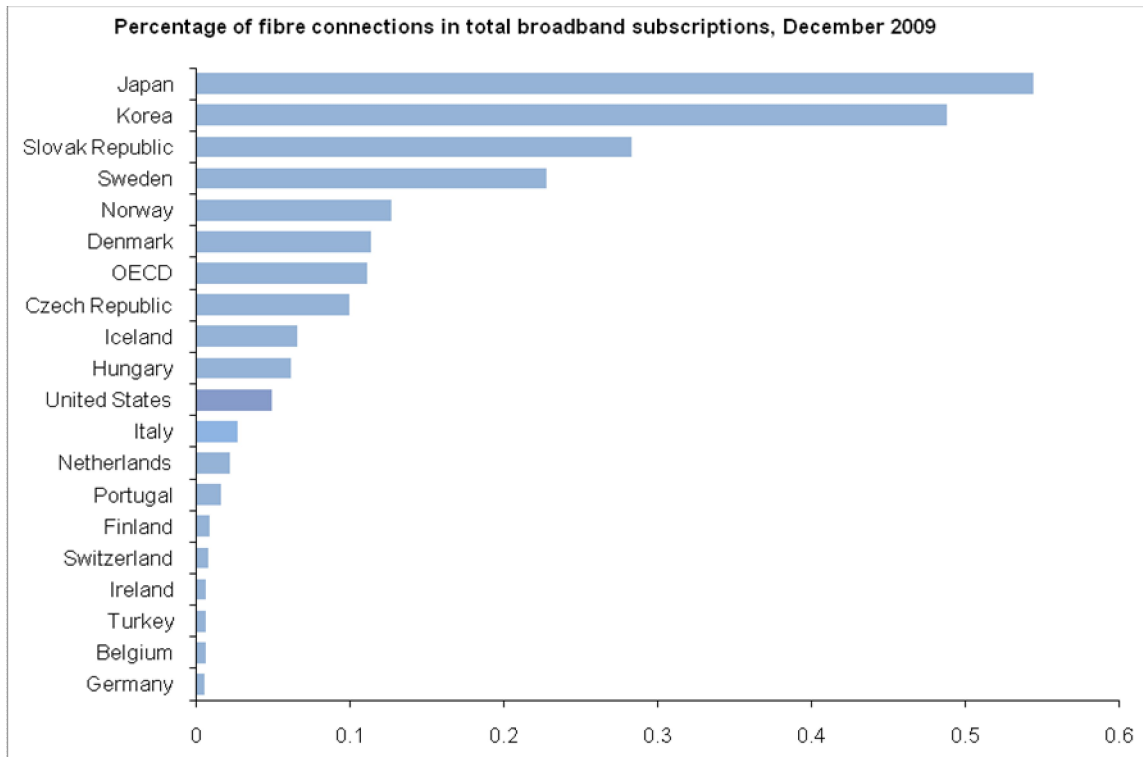
Government Failure

The failure of the market is compounded by the failure of government policy. Ireland's low international ranking in price and speed can be traced to a multitude of factors. As the incumbent, Eircom had resisted Local Unbundling (LLU), which allows other competitors to access the infrastructure.

These factors made it difficult for competitors to enter the market and ensured low levels of competition, which would have reduced prices and increased speeds.

While the European Framework Directive in 2002 made local loop unbundling and bit-stream access mandatory for wholesale, it is necessary to make a distinction between this legal requirement and practical implementation. Practical implementation of these policies was slow, with the government failing to obtain significant cost reductions in LLU. ComReg has only now successfully cut Eircom's rates for LLU rental from €16.43 to €12.41. Although it remains above the European average of €9.28, it is likely to foster competition by lowering barriers of entry. UPC's expansion of its cable services to DOCSIS 3.0, now available to over 527,400 of citizens, will provide further competition for medium speed broadband.

After a decade of policy mistakes, the government has now created a situation where first generation broadband can develop as it did in other countries over the past decade. However this is five years too late. We are already behind other countries in the development of Next Generation Broadband, as shown in the table below.



Source: OECD Broadband Statistics, December 2009

5. Why we need to move to Next Generation Broadband

In order to embrace the Digital Economy, Ireland must not only develop its infrastructure (broadband), but must become more competitive through improvements in education, e-government, cloud computing and European co-operation.

These actions can make Ireland truly embrace the Digital Economy.

The Applications of the Future

Next Generation Broadband will provide the infrastructure for the next generation of Social Innovation: advances in Health, Transport, Energy and Education will be under-pinned by the availability of Next Generation Broadband. The biggest obstacle is not that the current broadband network could not potentially facilitate any one of these services, but when all four of them are in operation, and are combined with consumer and business use, the current broadband will rapidly become unable to deal with the capacity required.

Future Applications: Health

Next Generation Broadband will play a significant role in improving Health Services in terms of quality, accessibility and outcomes. E-Health has the potential to do this in a cost-effective manner, particularly as the overall age of the population grows. Next Generation Access increases the potential for more doctor-to-patient interaction, with the doctor based in the hospital while the user is based at home. It also allows a more rational distribution of work, allowing specialists in central medical centres, where expertise is located, to examine data transmitted from local medical centres. This will facilitate specialist advice for all patients. E-Health is already a growing market and is expected to account for 5% of total national health budgets by 2010.⁶

⁶Next Generation Connectivity, Berkman Centre Harvard, p. 22

Q. Why are current broadband networks unable to serve as the infrastructure for e-Health?

A. Health applications in particular will require extremely low “latency” (responsiveness) and high levels of stability in order for tele-health applications to work safely and efficiently. Low latency is paramount for any sort of remote equipment operation. Services like videoconferencing are vital for a doctor’s ability to analyse a patient. However in order to work effectively, high speeds are essential. In Sweden, Sjunet’s operators found that a 10-100 Mbit/s connection was sufficient for most applications. Any sort of patient monitoring system would require an extremely high level of service and latency to ensure efficacy, and long-term patient trust in the system.

Future Applications: Transport

Transportation planners suffer an information gap between the real-time traffic flow and their data. They are unable to collect traffic data, analyse and adjust to it in real time. This is necessary in order to then pass the improvements to all drivers and commuters. Broadband networks provide the foundation for collecting and distributing timely transportation information. This information could potentially reduce traffic congestion, lower fuel consumption and help avoid accidents. Reducing traffic congestion has a large impact on the economy as time spent waiting in traffic is lost productivity, combined with the increased fuel consumption and pollution.

Q. Why are current broadband networks unable to serve as the infrastructure for Transport?

A. While the data transfer would be primarily wireless (for example from cars and monitoring stations), any service that sends even small amounts of information on a regular basis could easily overwhelm mobile data networks. An extensive fibre network would allow the rollout of a system of specialised wireless access points throughout the road network. Such a network would be able to collect data and send it for analysis both efficiently and reliably.

Future Applications: Energy

One important role a nationwide FTTH network would play is in the area of Smart Grids. Data networks can serve as the foundation of new, smart electrical grids by addressing the current information gap between end-users and distributors. Allowing communication between end-users and distributors can enable people to track their energy consumption in real time. Such a move also allows consumers to monitor overall supply and demand, and allowing them to adjust their intake thereby gaining price reductions. Furthermore, it allows distributors to monitor and influence consumption in real time, allowing them to adjust their output. There are both economic and environmental benefits to smoothing out the massive fluctuations in electricity demand.

Q. Why are current broadband networks unable to serve as the infrastructure for smart grids?

A. Estimates for the data required for SmartGrids range from 100 kbit/s to 1 Mbit/s at a basic level.⁷ However, data requirements will increase substantially the more data is required. Nonetheless, 1 Mbit/s symmetric bandwidth is difficult within the current network, particularly given the requirement that data flows need to be constant. In addition, because smart grids need access to every premises, not just those with pre-existing broadband connections, electricity companies are wary of relying on the current telecoms networks.

Future Applications: Education

High-Speed broadband will allow children to access online curriculum tools and resources. The higher speed the broadband, the higher value the content that is available. Faster speeds allow for more advanced methods of communications such as videos. Beyond that, Broadband networks are helping students gain access to private-sector tutoring services in different countries, often with lower prices than what is domestically available. Furthermore, broadband is having a

⁷ *Network Developments in Support of Innovation and User Needs*, Working Party on Communications Infrastructures and Services Policy, OECD, p. 19

significant impact on education and e-learning by improving communication between administrators, teachers and the community.

Q. Why are the current broadband networks unable to serve as the infrastructure for future e-Learning?

A. Bandwidth requirements vary widely depending on the different modes of e-Learning. While lower-speed connections are sufficient for many times of e-learning such as downloading course notes, bandwidth demands increase significantly with interaction, especially audio and visual interaction. Fully online courses would require the potential to download large audio and video files, but crucially, further interaction would require sufficient upload speeds, which do not exist in the current infrastructure. Furthermore, in terms of retaining attention, statistics from Carnegie Mellon University have shown that with each level of faster connection the time spent on the site and the pages viewed increases.

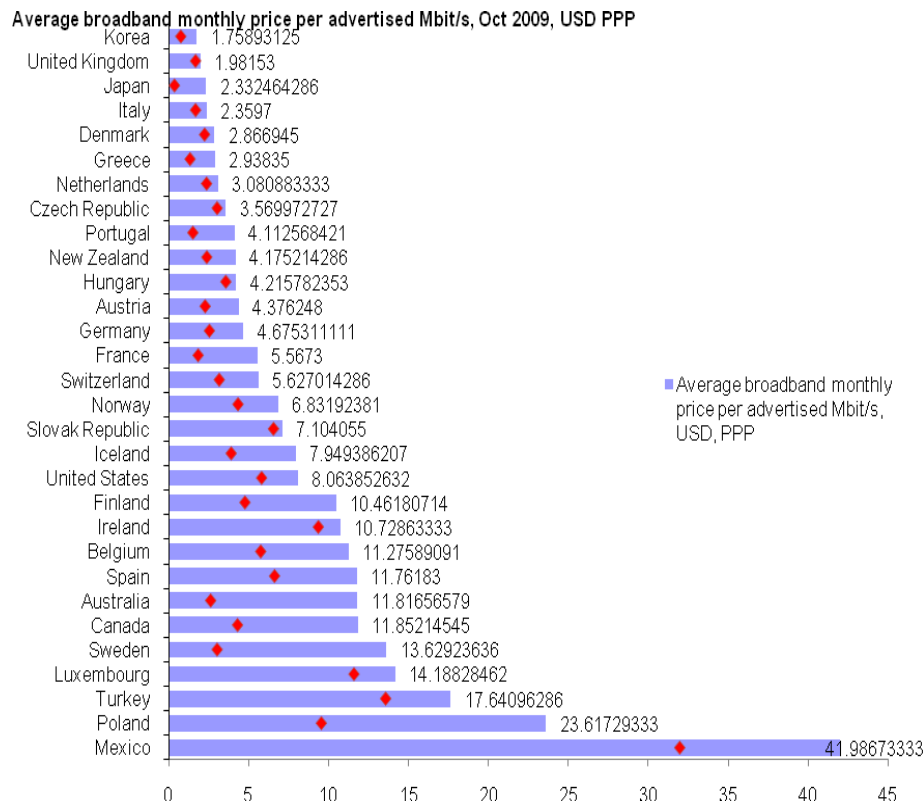
Digital Divide

The new network will significantly reduce the digital divide, dramatically improving broadband access for those living in rural and remote communities. It will play a key role in overcoming the problems of distance meaning that your public services will not be limited by where you live. It will increase access to specialist services in rural communities, including but not limited to health care by allowing the utilisation of e-Health services. It will allow for the businesses in the community to tap into the power of e-Commerce in a way that has been limited due to the failure National Broadband scheme.

Consumer

The Labour plan will dramatically increase the ability of Irish citizens to participate fully in the digital lifestyle, with all the associated benefits. Next Generation Broadband will allow parents to download movies at the same time as children downloading interactive lessons in the evening. Families will be able to keep in touch utilising video conferencing services, allowing grandchildren to connect with grandparents living in remote areas.

Ireland ranks 20th in the OECD rankings relating to price per advertised Mbit/s.



6. Digital Literacy

Current Situation

Over the past 10 years, the world has changed significantly due to advancements in computing and the Internet. It is essential to possess digital skills to live in the modern world. Ireland however falls drastically behind most European countries when it comes to digital literacy. Ireland ranks behind most European countries when it comes to digital literacy. Ireland is placed 18th out of 27 EU countries for percentage of population who use the Internet every day. This problem is even more pronounced in the younger age group of 16-24 year olds, where Ireland places 26th out of 27th.

The Plan

Labour in government will pursue a range of policies targeted at addressing this problem. It will pursue a range of programs to encourage digital literacy, with a particular focus on those most at risk, the old, the less educated, the unemployed and those on low incomes. This could be of particular use to those who are currently unemployed or on training schemes, as it would allow them to develop additional skills in order to increase their attractiveness to employers.

Labour will:

- Make Digital Literacy a priority for all aspects of government training, including the rolling out of targeted digital literacy programs.
- Promote digital inclusion among charities and NGOs.

Benefits

People without proper Internet access are excluded from the advancements of this digital age. From booking flights to reading newspapers, from paying motor tax to downloading music, the ability to use computers is a core competence in the modern age. The next generation of social innovations in e-Health and e-Learning will require digital literacy of all people involved, including the user. Rural users will benefit from increased connectivity to family and social services through digital literacy. In employment terms, studies show a 3-10% wage

premium for people with IT skills and a growing number of opportunities are increasingly posted only online.

Increased digital literacy also plays a crucial role in increasing demand for higher speed broadband. Government investment in increasing digital literacy will make the development of Next Generation Broadband significantly more cost-effective, while improving the life skills of the recipients at the same time.

7. Cloud Computing

Cloud Computing represents a tremendous opportunity for improvements in efficiency in all organizations. Cloud Computing refers to when users allow their data and applications to be stored in “the Cloud”, i.e. on a computer accessed through the Internet, rather than on their current computer.

This technology could match the telecommunications revolution in the 70s and 80s or the Internet revolution in the 90s. Professor Federico Etro, Bologna University has estimated that it could account for a significant increase to GDP and the creation of over a million new jobs in Europe in small and medium business over the next five years. Government facilitation of the introduction of this new technology can speed up this process, removing potential bulwarks halting growth.

As the government is a significant user of Information Technology, adaption of Cloud Computing allows for significant savings for government. It is estimated that a switch to Cloud Computing can result in a 25-50% reduction in the costs of Information Technology. This represents a huge saving to the public purse at a time when efficiency savings are vital.

It is clear that Cloud Computing will be an essential feature of Financial Services in the future. Presenting Ireland as a leader in Cloud Computing would allow the government to position Ireland as a location for Cloud Computing companies. Cloud Computing is currently a \$58.6 billion industry but by 2014, Gartner research expects it to be worth more than \$148.8 billion. Over the next five years, companies will invest \$122 billion into the Cloud. Ireland Inc. can place itself at the forefront of this growing trend.

The Plan

While there are a series of regulatory issues that need to be addressed in order to fully utilise Cloud Computing, these challenges will by in large be addressed on a EU level. Labour is committed to actively participating in these discussions

relating to changing the data protection legislation and improving the international flow of data.

However for Ireland to lead the world in Cloud Computing, it needs to actively encourage individual and companies to speed their take-up of Cloud Computing. While 59% of the population and 86% of senior business managers say that they are excited about the prospective savings and opportunities from cloud computing, 90% of those are concerned about security, privacy and other concerns.

Labour in government will mandate the Chief Information Officer to encourage take-up of Cloud Computing, including coordinating interaction with potential providers of Cloud Computing to ensure appropriate standards are met.

Labour in government will commit to a range of proposals in order to encourage the early take up of Cloud Computing. These could include public information campaigns about cloud computing. However the single most important thing that the government can do is to become the early adapters, becoming the standard bearers for utilizing the cloud.

8. Digital Single Market

Introduction

While Europe has a single market for the vast majority of goods and services, the digital market is still a patchwork of fragmented online markets. Each different country has a different set of regulatory rules which limits the development of a Digital Single Market across Europe comparable to the United States. In the United States, the music downloading market is four times bigger than the European Market.

The European Commission has recently launched a program to develop the Digital Single Market across the EU. It is estimated that a functioning European digital single market could account for an increase of 4% in GDP by 2020. This project is taking the Single Market into the digital age. Ireland should play a leading role in promoting and developing this project, in order for Europe and Ireland to fully capitalize on the Digital Economy and to establish Ireland as a leader in the Digital economy.

As Ireland's economy is one of the most open in Europe, it would benefit greatly from the establishment of a single market for the Digital age.

The Plan

Ireland can gain a significant competitive advantage by fully embracing the Digital Single Market. There are still aspects and directives that are required for the Digital Single Market that have not been yet fully implemented in Ireland. One core aspect of the package is the Services Directive where Ireland has fallen significantly behind other European countries in our implementation. Labour in government would focus on ensuring national requirements for the Digital Single Market would become a priority.

Furthermore, Ireland should lead the way in attempting to provide support to efforts designed to overcome the problems in fully realising a Digital Single Market. It would make Ireland a champion for the Digital Single Market in

Europe. These efforts, combined with our early adaption of regulations, will allow Ireland to position itself as a European base for new companies who will be working in this market, such as companies working on online content distribution systems (like iTunes) or online sales and services. This will be essential for positioning Ireland to attract the next generation of Foreign Direct Investment.

Labour Proposes

- Ireland should make the establishment of the Digital Single Market one of its priorities in its European agenda.
- Ireland should swiftly implement all requirements for the Digital Single Market, including the Services Directive.
- Ireland should provide extensive support for efforts designed to establish a Digital Single Market in order to position Ireland as a base for entry into the European market.

Conclusion

Ireland has a chance to become a world-leader in innovation surrounding Next Generation Broadband.

While the rest of the world catches up in terms of infrastructure, the Irish economy will be able to thrive as an export-driven knowledge economy, exporting the services on which the infrastructure will allow.

Ireland can produce the next generation of Google and Facebook not just focused on improving consumer access to the internet, but focused on Social Innovation and using technology to address the challenges facing the world in Health, Transport, Energy and Education. As the OECD states, “Innovation thrives on open platforms with expansive bandwidth for new applications”.

With Labour’s plan for Next Generation Broadband, Ireland can position itself as a country to trial and test many of these new applications that require FTTH connectivity and reap the many benefits from this unique market position. The advances in e-Health, e-Transport, e-Learning and energy efficiency are likely to require NGB.

NGB in Ireland would allow us to market the country as a test-bed for new start-ups, who are attempting to employ their systems on a national scale. Domestic companies can use this test-bed to develop the next generation of services to be exported across the world. Analysis using Industrial Development Authority data showed that Phase 1 MAN towns increased their share of FDI from 24% to 89% during 2004 to 2007, showing that broadband infrastructure directly impacts on FDI.

It is difficult to imagine the services and applications of tomorrow. The course and direction of e-Health, for example, is impossible to predict. From regular monitoring of blood pressure and heart rates for the elderly living at home to surgeons in Dublin performing operations on children in the Aran Islands, the

advancements in this area will continue to amaze us. Underpinning all of these services is Next Generation Broadband.

If Ireland takes steps now, it can place itself at the forefront of these future services. Innovation will occur; it is simply a question of where.
